SQL JOINS

Monti Kumar Raj

WHAT ARE JOINS?

- Joins are used to combine rows from two or more tables.
- They match data based on related columns.
- Example: Matching Customers with their Orders.

TYPES OF JOINS

- INNER JOIN → Only matching rows
- LEFT JOIN → All rows from left + matches
- RIGHT JOIN → All rows from right + matches
- FULL OUTER JOIN → All rows from both tables
- CROSS JOIN → All combinations
- SELF JOIN → Table joined with itself

EXAMPLE TABLES

- Customers:
  - (CustomerID, Name, City)
- Orders:
  - (OrderID, CustomerID, Product)

INNER JOIN

- Returns only matching rows.
- Example:

```
Select Customers.Name, Orders.Product
From Customers
Inner Join Orders
On Customers.CustomerID = Orders.CustomerID;
```

LEFT JOIN

- Returns all rows from left table + matching rows from right.
- Example:

```
Select Customers.Name, Orders.Product
From Customers
Left Join Orders
On Customers.CustomerID = Orders.CustomerID;
```

RIGHT JOIN

- Returns all rows from right table + matching rows from left.
- Example:

```
Select Customers.Name, Orders.Product
From Customers
Right Join Orders
On Customers.CustomerID = Orders.CustomerID;
```

FULL OUTER JOIN

- Returns all rows from both tables (match or not).
- Example:

```
Select Customers.Name, Orders.Product
From Customers
Full Outer Join Orders
On Customers.CustomerID = Orders.CustomerID;
```

CROSS JOIN

- Returns all combinations (Cartesian product).

- Example:

```
Select Customers.Name, Orders.Product
From Customers
Cross Join Orders;
```

SELF JOIN

A table joined with itself.

Example:

```
Select A.Name, B.Name, A.City
From Customers A
join Customers B
On A.City = B.City AND A.CustomerID <>
B.CustomerID;
```

THANK YOU

Monti Kr. Raj